Imagine COMMUNICATIONS™

Installation and Operation Manual

Selenio 6800™
DEC6800+/DES6800+
Decoder/Decoder Synchronizer

Edition D

175-000139-00

Delivering the Moment

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Publication Information

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DEC/DES6800+

HD/SD TV Two- and Four-Channel AES Demultiplexers

Installation and Operation Manual

Edition D
December 2005

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Preface

Manual Information

Purpose

This manual details the features, installation, operation, maintenance, and specifications for DEC/DES6800✚ Video Frame Synchronizers.

Audience

This manual is written for engineers, technicians, and operators responsible for installation, setup, maintenance, and/or operation of DEC/DES6800✚ Video Frame Synchronizers.

Revision History

Table P-1. Revision History of Manual

Edition	Date	Comments
A	May 2003	Initial release
B	May 2004	Content Corrections
C	October 2005	Formatting changes; addition of NarrowChrBPF parameter
D	November 2005	Addition of product-specific troubleshooting information; minor corrections to content

Writing Conventions

To enhance your understanding, the authors of this manual have adhered to the following text conventions:

Table P-2. Writing Conventions

Term or Convention	Description
Bold	Indicates dialog boxes, property sheets, fields, buttons, check boxes, list boxes, combo boxes, menus, submenus, windows, lists, and selection names
Italics	Indicates E-mail addresses, the names of books or publications, and the first instances of new terms and specialized words that need emphasis
CAPS	Indicates a specific key on the keyboard, such as ENTER, TAB, CTRL, ALT, or DELETE
Code	Indicates variables or command-line entries, such as a DOS entry or something you type into a field
>	Indicates the direction of navigation through a hierarchy of menus and windows
hyperlink	Indicates a jump to another location within the electronic document or elsewhere
Internet address	Indicates a jump to a Web site or URL
Note	Indicates important information that helps to avoid and troubleshoot problems

Obtaining Documents

Product support documents can be viewed or downloaded from our Web site at www.broadcast.harris.com/leitch (go to **Support> Documentation**). Alternatively, contact your customer service representative to request a document.

Unpacking/Shipping Information

Unpacking a Product

This product was carefully inspected, tested, and calibrated before shipment to ensure years of stable and trouble-free service.

1. Check equipment for any visible damage that may have occurred during transit.
2. Confirm that you have received all items listed on the packing list.
3. Contact your dealer if any item on the packing list is missing.
4. Contact the carrier if any item is damaged.
5. Remove all packaging material from the product and its associated components before you install the unit.

Keep at least one set of original packaging, in the event that you need to return a product for servicing.

Product Servicing

Except for firmware upgrades, DEC/DES6800✚ modules are not designed for field servicing. All hardware upgrades, modifications, or repairs require you to return the modules to the Customer Service center.

Returning a Product

In the unlikely event that your product fails to operate properly, please contact Customer Service to obtain a Return Authorization (RA) number, then send the unit back for servicing.

Keep at least one set of original packaging in the event that a product needs to be returned for service. If the original package is not available, you can supply your own packaging as long as it meets the following criteria:

- The packaging must be able to withstand the product's weight.
- The product must be held rigid within the packaging.
- There must be at least 2 in. (5 cm) of space between the product and the container.
- The corners of the product must be protected.

Ship products back to us for servicing prepaid and, if possible, in the original packaging material. If the product is still within the warranty period, we will return the product prepaid after servicing.

Restriction on Hazardous Substances (RoHS) Compliance

Directive 2002/95/EC—commonly known as the European Union (EU) Restriction on Hazardous Substances (RoHS)—sets limits on the use of certain substances found in electrical and electronic equipment. The intent of this legislation is to reduce the amount of hazardous chemicals that may leach out of landfill sites or otherwise contaminate the environment during end-of-life recycling. The Directive takes effect on July 1, 2006, and it refers to the following hazardous substances:

- Lead (Pb)
- Mercury (Hg)
- Cadmium (Cd)
- Hexavalent Chromium (Cr-V1)
- Polybrominated Biphenyls (PBB)
- Polybrominated Diphenyl Ethers (PBDE)

According to this EU Directive, all products sold in the European Union will be fully RoHS-compliant and "lead-free." (See our Web site, www.broadcast.harris.com/leitch, for more information on dates and deadlines for compliance.) Spare parts supplied for the repair and upgrade of equipment sold before July 1, 2006 are exempt from the legislation. Equipment that complies with the EU directive will be marked with a RoHS-compliant emblem, as shown in Figure P-1.

Figure P-1. RoHS Compliance Emblem

Waste from Electrical and Electronic Equipment (WEEE) Compliance

The European Union (EU) Directive 2002/96/EC on Waste from Electrical and Electronic Equipment (WEEE) deals with the collection, treatment, recovery, and recycling of electrical and electronic waste products. The objective of the WEEE Directive is to assign the responsibility for the disposal of associated hazardous waste to either the producers or users of these products. Effective August 13, 2005, producers or users will be required to recycle electrical and electronic equipment at end of its useful life, and may not dispose of the equipment in landfills or by using other unapproved methods. (Some EU member states may have different deadlines.)

In accordance with this EU Directive, companies selling electric or electronic devices in the EU will affix labels indicating that such products must be properly recycled. (See our Web site, www.broadcast.harris.com/leitch, for more information on dates and deadlines for compliance.) Contact your local sales representative for information on returning these products for recycling. Equipment that complies with the EU directive will be marked with a WEEE-compliant emblem, as shown in Figure P-2.

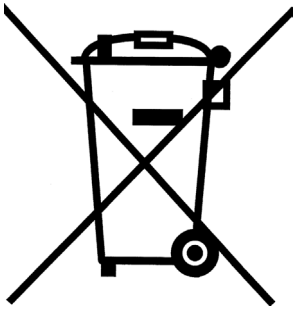

Figure P-2. WEEE Compliance Emblem

Safety

Carefully review all safety precautions to avoid injury and prevent damage to this product or any products connected to it. If this product is rack-mountable, it should be mounted in an appropriate rack using the rack-mounting positions and rear support guides provided. It is recommended that each frame be connected to a separate electrical circuit for protection against circuit overloading. If this product relies on forced air cooling, it is recommended that all obstructions to the air flow be removed prior to mounting the frame in the rack.

If this product has a provision for external earth grounding, it is recommended that the frame be grounded to earth via the protective earth ground on the rear panel.

IMPORTANT! Only qualified personnel should perform service procedures.

Safety Terms and Symbols in this Manual

WARNING

Statements identifying conditions or practices that may result in personal injury or loss of life. High voltage is present.

CAUTION

Statements identifying conditions or practices that can result in damage to the equipment or other property.

Chapter 1

Introduction

Overview

The DEC6800✚ and DES6800✚ modules are NTSC/PAL-to-SDI decoders. You can set up, control, and monitor DEC/DES6800✚ modules either locally via card-edge controls or remotely on a PC.

The following topics are described in this chapter:

- "Product Description" on page 2
- "Module Descriptions" on page 4
- "Signal Flow" on page 7

Product Description

DEC/DES6800+ Modules

The DEC/DES6800✚ decoders are compact, high precision 12-bit decoders that convert NTSC or PAL analog composite signals into superior quality component (4:2:2) digital video. These decoders use advanced Phase Quadrature Mixing (PQM™) technology for 2-D adaptive comb filtering, and are designed for high performance and optimal value. They are both able to process vertical blanking intervals (VBIs) and handle super-black levels.

The DES6800+ also provides frame synchronization features and TBC capabilities. It provides an audio sync lock with video delay and hot-switch outputs for an data I/O interface to accommodate future digital audio modules.

Other DEC/DES6800✚ features include the following:

- Analog video processing at ±5 dB gain range
- ±7.5 IRE black level
- 360° hue adjustment allowing full-range user control
- Over-sampling analog-to-digital conversion with 12-bit resolution
- TBC capabilities, locking to VHS or bad microwave feeds (DES6800+ only)
- 2-D adaptive comb filtering utilizing the new PQM™ technology
- Automatic PAL/NTSC switching (based on input signal)
- Full VBI handling and processing (line by line)
- Test signal generation (75% color bar, FCC composite, black)
- Full compatibility with existing frames

The new Phase Quadrature Mixing (PQM™) technology provides the highest degree of video decoding quality while minimizing the level of residual subcarrier artifacts associated with previous comb filter designs.

The PQM™ decoding technology is based on a set of dynamic control signals that are derived from specific quadrature characteristics of the source video signal. These signals are filtered and subsequently used to modulate the summation of the original source video components, in a balanced mixer hierarchy that mirrors the control signal quadrature relationship.

Module Descriptions

Front Module

Figure 1-1 is a generic top-front view of a typical 6800✚ module and shows the general location of standard LEDs, controls, and jumpers. The number of Control and Monitoring LEDs on 6800✚ modules varies.

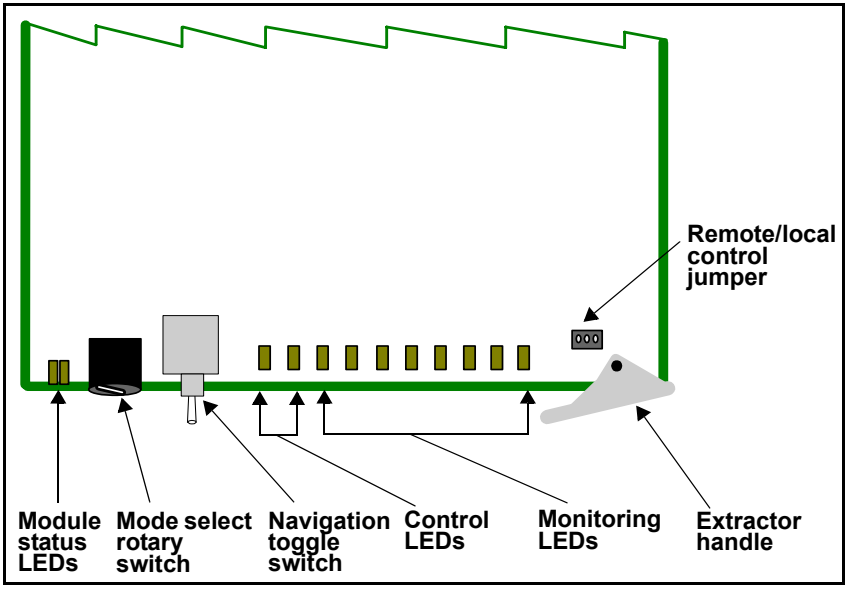

Figure 1-1. Typical 6800✚ Module

Table 1-1 on page 5 briefly describes generic 6800✚ LEDs, switches, and jumpers. See "Chapter 3: Operation" for more information on specific DEC6800✚ and DES6800✚ module controls, LEDs, and jumpers.

Table 1-1. Generic 6800✚ Module Features

Feature	Description
Module status LEDs	Various color and lighting combinations of these LEDs indicate the module state. See "Monitoring LEDs" in Chapter 3 for more information.
Mode select rotary switch	This switch selects between various control and feedback parameters.
Navigation toggle switch	This switch navigates up and down through the available control parameters: • **Down**: Moves down through the parameters • **Up**: Moves up through the parameters
Control LEDs	Various lighting combinations of these Control LEDs (sometimes referred to as "Bank Select LEDs") indicate the currently selected bank. See Table 3-1 "Selected Bank as Indicated by Control LEDs" for more information.
Monitoring LEDs	Each 6800✚ module has a number of LEDs assigned to indicate varying states/functions. See "Monitoring LEDs" in Chapter 3 for a description of these LEDs.
Local/remote control jumper	• **Local**: Locks out external control panels and allows card-edge control only; limits the functionality of remote software applications to monitoring • **Remote**: Allows remote or local (card-edge) configuration, operation, and monitoring of the DEC6800✚ and DES6800✚

Back Connectors

FR6802+ Frame Back Connector

Note

Only DES6800+ modules use the Data I/O and Genlock ports.

Figure 1-2 shows the double-slot back connector (DEC/DES6800+DR) for use with the DEC/DES6800+ when installed in an FR6802+ frame.

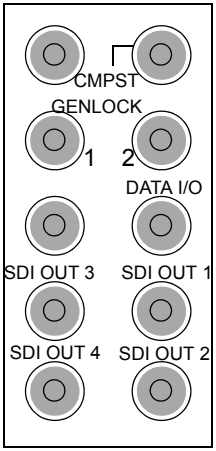

Figure 1-2. Back Connector for FR6802+ Frame

6800/7000 Series Frame Back Connector (Overlay)

Note

Remote control for these 6800+ modules is not available if it is installed in a 6800/7000 series frame.

Only DES6800+ modules use the Data I/O and Genlock ports.

Figure 1-3 shows the double-slot back connector overlays for use with the DEC/DES6800+ when installed in a 6800/7000 series frame.

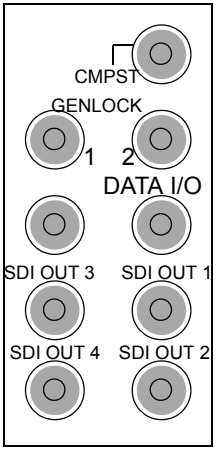

Figure 1-3. Back Connector Overlay for 6800/7000 Series Frame

Signal Flow

Figure 1-4 shows the basic signal flow of the DEC/DES6800✚.

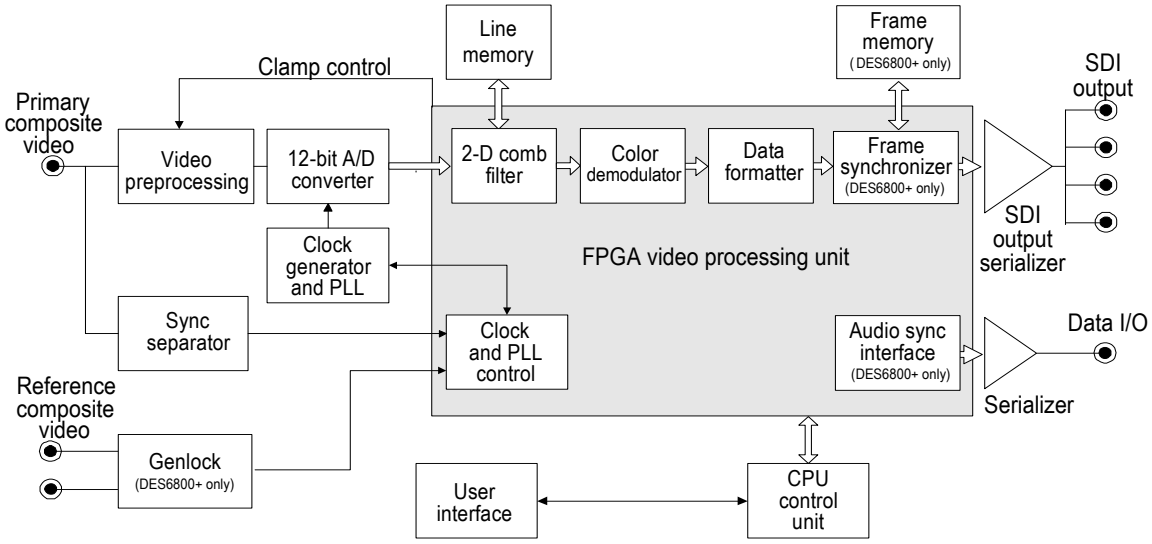

Figure 1-4. DEC/DES6800✚ Signal Flow Diagram

Chapter 2

Installation

Overview

Caution

Before installing this product, read the *6800✚ Series Safety Instructions* and Standards Manual shipped with every *FR6802✚ Frame Installation and Operation Manual* or downloadable from our Web site at www.broadcast.harris.com/leitch. This safety manual contains important information about the safe installation and operation of 6800✚ series products.

This chapter describes the DEC/DES6800✚ installation process, including the following topics:

- "Maximum 6800✚ Frame Power Ratings" on page 10
- "Unpacking the Module" on page 11
- "Setting Jumpers" on page 12
- "Installing 6800+ Modules" on page 16
- "Making Connections" on page 16

See the *FR6802✚ Frame Installation and Operation Manual* for information about installing and operating an FR6802✚ frame and its components.

See the *6800 Series Frames and Power Supply Installation and Operation Manual* for information about installing and operating a 6800/7000 series frame.

Maximum 6800+ Frame Power Ratings

The following tables state the maximum allowable power ratings for 6800+ frames. Note the given maximums before installing any 6800+ modules in your frame.

The power consumption rating for the DEC/DES6800+ is provided in the specifications chapter.

Table 2-1. Maximum Power Settings for 6800+ Frames When Using an AC Power Supply

6800+ Frame Type	Max. Frame Power Dissipation	Number of Usable Slots	Max. Power Dissipation per Slot
FR6802+DM (frame without fans, fixed back panel)	50 W	10	5 W
FR6802+DMF (frame with fans, fixed back panel)	120 W	10	12 W
FR6802+X (frame without fans)	50 W	20	2.5 W
FR6802+XF (frame with fans)	120 W	20	6 W

Table 2-2. Maximum Power Supply Settings for 6800+ Frames When Using a DC Power Supply

6800+ Frame Type	Max. Frame Power Dissipation	Number of Usable Slots	Max Power Dissipation per Slot
FR6802+DM48 (frame without fans)	50 W	10	5.0 W
FR6802+DMF48 (frame with fans)	105 W	10	10.5 W
FR6802+X48 (frame without fans)	50 W	20	2.5 W
FR6802+XF48 (frame with fans)	105 W	20	5.25 W

Unpacking the Module

Preparing the Product for Installation

Before you install the DEC/DES6800✚, perform the following:

- Check the equipment for any visible damage that may have occurred during transit.
- Confirm receipt of all items on the packing list. See "Checking the Packing List" for more information.
- Remove the anti-static shipping pouch, if present, and all other packaging material.
- Retain the original packaging materials for possible re-use.

See "Unpacking/Shipping Information" on page ix for information about returning a product for servicing.

Note

Contact your customer service representative if parts are missing or damaged.

Checking the Packing List

Note

Back connectors must be ordered separately from the DEC/DES6800✚ front module. Various back connectors and overlays are available depending on your specific product requirements.

Table 2-3. Available Product Packages

Ordered Product	Content Description
DEC/DES6800✚	• One DEC6800✚ or DES6800✚ front module • One *DEC/DES6800✚ Installation and Operation Manual*
DEC/DES6800✚D	• One DEC6800✚ or DES6800✚ front module • One DEC/DES6800✚ standard double-slot 10 BNC back connector for use in the FR6802✚ frame • One *DEC/DES6800✚ Installation and Operation Manual*
DEC/DES6800✚DR	One DEC/DES6800✚ standard double-slot 10 BNC back connector for use in the FR6802✚ frame
Optional items	One DEC/DES6800✚ back connector overlay (for use in a 6800/7000 series frame)

Setting Jumpers

The DES6800+ module includes 3 jumpers: **CJPC1, J3,** and **J28.** The DEC6800+ module includes only the **CJPC1** and **J3** jumpers.

Jumper **CJPC1** allows you to select either **Local** control or **Remote** control.

Jumper **J3** allows you to select either **Termination On** or **Termination Off** for video input.

Jumper **J28** (DES6800✚ only) allows you to select the genlock input option as either Genlock 1 or Frame Genlock.

Figure 2-1 shows the location of the three jumpers.

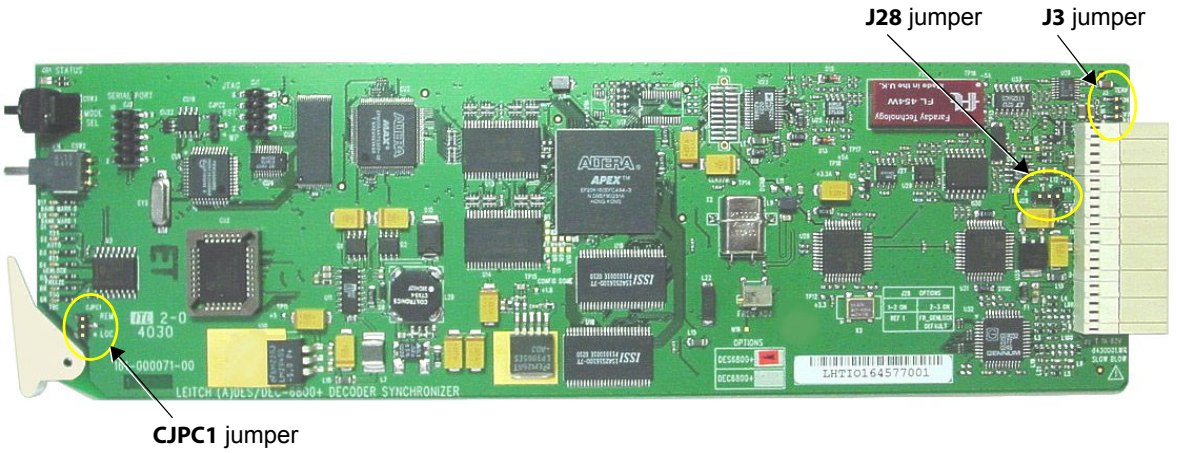

Figure 2-1. Location of Jumpers CJPC1, J3, and J28

Using Jumper CJPC1 to Set Local/Remote Control

Follow this procedure to set the **CJPC1** jumper for either local or remote control:

1. Locate jumper **CJPC1** on the module (beside the extractor handle). See Figure 2-1 on page 12.
2. Place a jumper on pins 1 and 2 to set the module for **Local** control, or pins 2 and 3 to set the module for **Remote** control. See Figure 2-2.

Note

The white triangle screened on the module near the jumper pins indicates pin 1.

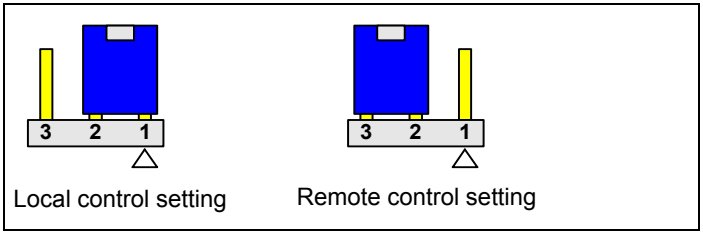

Figure 2-2. CJPC1 Settings for Local and Remote Control

Using Jumper J3 to Set Termination Off/On

Follow this procedure to set the **J3** jumper for either termination off or termination on mode:

1. Locate jumper **J3** on the module. See Figure 2-1 on page 12.
2. Place a jumper on pins 1 and 2 to set the module for termination off mode, or pins 2 and 3 to set the module for termination on mode. See Figure 2-3.

Note

The white triangle screened on the module near the jumper pins indicates pin 1.

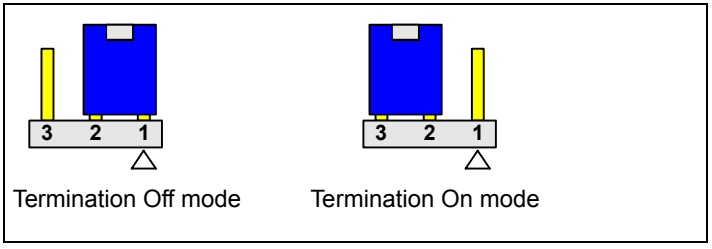

Figure 2-3. J3 Settings for Termination Off/On

Using Jumper J28 to Set the Genlock Input Option (DES6800✚ only)

Follow this procedure to set the **J28** jumper for setting the genlock input option to either Genlock 1 mode or Frame Genlock mode:

1. Locate jumper **J28** on the module. See Figure 2-1 on page 12.
2. Place a jumper on pins 1 and 2 to set the module for Genlock 1 mode, or pins 2 and 3 to set the module for Frame Genlock mode. See Figure 2-4.

Note

The white triangle screened on the module near the jumper pins indicates pin 1.

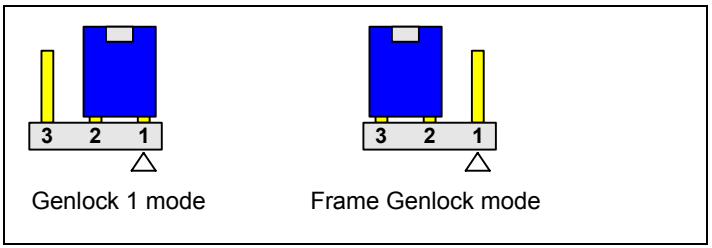

Figure 2-4. J28 Settings for Genlock Input Mode

Configuring the Correct Genlock Input Source

The Genlock source is not only selected by the J28 jumper setting described above, but by the **Reference Select** parameter setting you make in Bank 0, rotary switch setting 6 (see Table 3-3 on page 23). Parameter setting options include the following:

- **Genlock 1/Frame Genlock** - When this is selected, the genlock source must come from either the Genlock 1 input of the rear module or from the FR6802✚ frame genlock input. This is determined by the position of jumper J28 on the DES6800✚ module as shown in "Using Jumper J28 to Set the Genlock Input Option (DES6800✚ only)" on page 14.
- **Genlock 2** - When this option is selected, the genlock source will be taken from the Genlock 2 input of the rear module and is independent of the jumper J28 setting.
- **Auto** - When this is selected, the genlock source varies between **Genlock 1/Frame** and **Genlock 2** genlock. This is used if the card is expected to auto-switch between an NTSC reference and a PAL-B reference based on the video input. For example, an NTSC reference could be applied to Genlock 2 and a PAL-B reference applied to either Genlock 1 or the Frame. Then when the input signal changes between NTSC and PAL-B, the genlock will automatically switch to the appropriate genlock source. Remember

Note

The same type of genlock format (NTSC or PAL-B) should never be applied to both genlock input sources at the same time.

that jumper J28 determines whether Genlock 1 or the Frame is the source of the first genlock input as shown in “Using Jumper J28 to Set the Genlock Input Option (DES6800✚ only)” on page 14.

When the genlock source input is valid, the Genlock LED, D4, will turn green.

Installing 6800+ Modules

Required Frames and Back Connector Types

The DEC/DES6800✚ modules have double-width back connectors that can be installed in an FR6802✚X(F) or a 6000/7000 series frame. See the FR6802+ Frame Installation and Operation Manual for details on installing back connectors in an FR6802✚ frame.

See the 6800 Series Frames and Power Supply Installation and Operation Manual for details on installing back connectors in a 6000/7000 series frame.

Installing DEC/DES6800+ Modules

These modules require no specialized installation procedures.However, if installing both front and rear modules, ensure that the back module is installed first, before plugging in the front module.

- See the FR6802✚ Frame Installation and Operation Manual for information about installing and operating an FR6802✚ frame and its components.
- See the 6800 Series Frames and Power Supply Installation and Operation Manual for information about installing and operating a 6800/7000 series frame.

Removing DEC/DES6800+ Modules

These modules require no specialized removal procedures. However, if removing both front and rear modules, ensure that the front module is unplugged from the frame first before removing the rear module.

- See the FR6802+ Frame Installation and Operation Manual for information about removing components in an FR6802✚ frame.
- See the 6800 Series Frames and Power Supply Installation and Operation Manual for information about removing components in a 6800/7000 series frame.

Making Connections

Once you have installed your DEC/DES6800✚ modules, you can connect them to the appropriate input and outputs.

Chapter 3

Operation

Overview

This chapter describes how to operate the DEC/DES6800✚ using card-edge controls only. See the following documents for information on how to operate this product remotely:

- ✚ *Pilot Lite User Manual* for serial control interface
- CCS™ Navigator™, Pilot™ CoPilot™ or RCP-CCS-1U Remote Control Panel Manual for Ethernet control interface

The following topics are discussed in this chapter:

- "Operating Notes" on page 18
- "Cross-Functional Parameter Changes" on page 19
- "Setting DEC/DES6800✚ Control Parameters" on page 23
- "Data I/O Interface (DES6800✚ Only)" on page 34
- "LEDs and Alarms" on page 34

Operating Notes

When change a parameter on the DEC/DES6800✚, observe the following:

- When you change a parameter, the effect is immediate. However, the module requires up to 20 seconds to save the latest change. After 20 seconds, the new settings are saved and will be restored if the module loses power and must be restarted.
- If you make a change to certain parameters, other related parameters may also be affected. See “Cross-Functional Parameter Changes” on page 19 for more information on these cross-functional parameter changes.

Cross-Functional Parameter Changes

When you configure certain parameters, you force a change in other associated parameters. Table 3-1 lists these cross-functional parameters and the settings affected.

Table 3-1. Cross-Functional Parameter Changes

Parameter	Option	Affected Parameter	Forced Setting
Video Standard	525	Proc Hue Phase	Enabled
		H Phase	Range is 0 to 63.518 µs
		V Phase	Range is 0 to 524 Ln
		Edge Enhancement	Enabled
		Setup	Enabled
		VBI Setup Control	Enabled
		VBI Filter Lines 6, 7, 8, 9, and 23	Disabled
	625	Proc Hue Phase	Disabled
		H Phase	Range is 0 to 63.963 µs
		V Phase	Range is 0 to 624 Ln
		Edge Enhancement	Disabled
		Setup	Disabled
		VBI Setup Controls (All)	Disabled
		VBI Filter Lines 6, 7, 8, 9, and 23	Enabled
VBI Filter Control	Enabled	VBI Filter Lines 10 to 22 (525) or VBI Filter Lines 6 to 23 (625)	Enabled
	Disabled	VBI Filter Lines 10 to 22 (525) or VBI Filter Lines 6 to 23 (625)	Disabled

Table 3-1. Cross-Functional Parameter Changes *(Continued)*

Parameter	Option	Affected Parameter	Forced Setting
VBI Setup Control	Enabled	VBI Setup Lines 10 to 22 (525 only)	Enabled
	Disabled	VBI Setup Lines 10 to 22 (525 only)	Disabled
VBI Filter Field	Field 1	VBI Filter (All Lines)	Affects Field 1
	Field 2	VBI Filter (All Lines)	Affects Field 2
VBI Setup Field	Field 1	VBI Setup Lines 10 to 22 (525 only)	Affects Field 1
	Field 2	VBI Setup Lines 10 to 22 (525 only)	Affects Field 2
Read Only TBC Parameter	Enabled	Read Only Hotswitch	Disabled (if **Hotswitch** is set to **Auto**)
		Read Only Decode Mode	Notch (if **Decode Mode** is set to **Auto**)
	Disabled	Read Only Hotswitch	Enabled (if **Hotswitch** is set to **Auto**)
		Read Only Decode Mode	2-D Adaptive (if **Decode Mode** is set to **Auto**)

Changing Parameter Settings

Follow these steps to change the DEC/DES6800✚ parameter settings:

1. Rotate the mode select rotary switch (hex switch) to "0."
2. Once the hex switch is set to "0," toggle the navigation switch up or down to select a parameter bank.

   View the two control LEDs immediately below the navigation toggle switch to see which bank is currently selected.

Table 3-2. Selected Bank as Indicated by Control LEDs

Bank Mark 0	Bank Mark 1	Bank
Off	Off	0
On	Off	1
Off	On	2
On	On	3

See Table 3-3 on page 23 to view the various parameter banks, hex switch positions, and corresponding parameter options and values.

Note

For best results, use the available 6800✚ software control options (serial/local or Ethernet/remote) to aid in viewing, setting, and confirming parameter values.

3. Rotate the hex switch to the parameter number (1 to 9) or letter (A to F) of the option you want to set.
4. Toggle the navigation switch to select and set the value of the chosen parameter.
5. Rotate the hex switch to another parameter number/letter in the current parameter bank and then repeat step 4.

   or

   Rotate the hex switch to "0" again to select a different parameter bank, and then repeat steps 3 and 4.

Recalling Default Parameter Settings

Table 3-3 on page 23 describes all of the parameter settings for the DEC/DES6800✚, including the original factory defaults. To return this module to its default settings, you can either reset each parameter individually or do a global recall using the following procedure:

1. Rotate the hex switch to "0."

2. Toggle the navigation switch to bank number “0.”

   Use the control LEDs to verify which bank you have selected, or use an available 6800✚ software control option (serial/local or Ethernet/remote) to aid in confirming your bank selection.
3. Rotate the hex switch to the global recall parameter, “F.”
4. Toggle the navigation switch to recall the default parameter settings.

Reading Software and Hardware Versions

The current software and hardware version of your DEC6800✚ or DES6800✚ module can only be viewed using a CCS-enabled control panel or a CCS software application, such as Pilot or ✚Pilot Lite. See your *LCP-3901-1U and RCP-CCS-1U Local and Remote Control Panel Installation and Operation Manual,* CCS software application user manual, or CCS software application online help for information on viewing software and hardware version numbers.

Setting DEC/DES6800+ Control Parameters

Note

The sequence of options listed in the Parameter Option column mirrors the sequence achieved when you move the navigation toggle switch up.

Table 3-3 lists bank 0 and 1 control options and parameters for both NTSC and PAL-B modes. Table 3-4 lists the NTSC-specific options for banks 2 and 3. Table 3-5 lists the PAL-B-specific options for banks 2 and 3.

Note that bank numbers are indicated on the card-edge by the On/Off combinations of the control LEDs. See "Cross-Functional Parameter Changes" on page 19 for more information.

Table 3-3. Common Parameter Banks 0 and 1

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
0, 0	Bank Select	Selects the parameter bank	• Bank increase • Bank decrease (**Bank 0**)
0, 1	Video Standard Sel.	Selects the video standard	• **Auto** • 525 • 625
0, 2	(Not functional)		
0, 3	Decode Mode	Selects the decode mode	• **Auto** (default in DES6800✚ • **2-D adaptive filter** (default in DEC6800+) • Notch filter
0, 4	(Not functional)		
0, 5	Genlock (DES6800+ only)	Selects the genlock mode	• **Sync mode** • Delay mode • Free run
0, 6	Reference Select (DES6800+ only)	Selects the reference input source This parameter works in conjunction with the J28 Local/frame jumper setting. See "Using Jumper J28 to Set the Genlock Input Option (DES6800✚ only)" on page 14 for more information.	• **Auto** • Genlock 1/ Frame genlock • Genlock 2

Table 3-3. Common Parameter Banks 0 and 1 *(Continued)*

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
0, 7	Analog Video Level	Adjusts the analog video level	-5.0 to +5.0 dB (**0.0 dB**)
0, 8	Analog Black Level	Adjusts the analog black level	-7.5 to +7.5 IRE (**0 IRE**)
0, 9	Proc Luma Level	Adjusts the luma level	-6.0 to +5.9 dB (**0 IRE**)
0, A	Proc Chroma Level	Adjusts the chroma level	-6.0 to +5.9 dB (**0.0 dB**)
0, B	Proc Hue Phase (NTSC only)	Adjusts the hue phase	-180.00 to +179.83 degrees (**0.0 degrees**)
0, C	Proc Cb Offset	Adjusts the Cb offset	-100.0 to + 99.3% (**0**)
0, D	Proc Cr Offset	Adjusts the Cr offset	-100.0 to + 99.3% (**0**)
0, E	Input Video with Burst	Selects the input video locking mode	• **Yes** • No
0, F	Factory Recall	Recalls the factory default settings	• Recall (All default values in parameter banks 0 to 3)

Table 3-3. Common Parameter Banks 0 and 1 *(Continued)*

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
1, 0	Bank Select	Selects the parameter bank	• Bank increase • Bank decrease (**Bank 0**)
1, 1	Freeze (DES6800✚ only)	Forces the output video to freeze	• On • **Off**
1, 2	Freeze Mode (DES6800✚ only)	Selects the type of video freeze	• **Field 1** • Field 2 • Frame
1, 3	(Not functional)		
1, 4	H Phase (DES6800✚ only; this function is available in both **Delay** mode and **Synchronizing** mode) [wraps]	Adjusts the horizontal timing	NTSC: **0.0** to 63.518 µs
			PAL-B: **0.0** to 63.963 µs
1, 5	V Phase (DES6800✚ only; this function is available in both **Delay** mode and **Synchronizing** mode) [wraps]	Adjusts the vertical timing	NTSC: **0** to 524 Ln
			PAL-B: **0** to 624 Ln
1, 6	Input Video Active Lines with/without Setup (Disabled in PAL-B)	Sets the presence of Setup (7.5 IRE) in the input video	• **With** • Without
1, 7	Black Clip	Sets the activation of the black clip	• Enable • **Disable**
1, 8	Hot Switch (DES6800✚ only; Bank 0 **Genlock** parameter must be set to **Sync** mode or **Free run**.)	**Auto**: TBC activation will disable the hot switch **Disable**: Passes video including any input disturbances **Enable**: Freezes or selects test signal	• **Auto** • Enable • Disable

Table 3-3. Common Parameter Banks 0 and 1 *(Continued)*

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
1, 9	Loss of Video Mode	Selects video output in the absence of input video	• **Hot Switch** (DES6800✚) **Pass** (DEC6800✚) • Displays selected test pattern
1, A	(Not functional)		
1, B	TBC Switch Delay (DES6800✚ only)	When a non-TBC source is encountered, wait this amount of time before enabling TBC mode	• Increase 20 ms (max 2 sec) • Decrease 20 ms (min 100 ms) (**500 ms**)
1, C	TBC mode (DES6800✚ only; Bank 0 **Genlock** parameter must be set to **Sync** mode or **Free run**.)	Controls the activation of TBC mode	• **Auto** • Enable • Disable
1, D	TSG	Controls the activation of the text signal generator	• Enable • **Disable**
1, E	TSG Pattern	Selects TSG pattern	• Black • FCC composite • **Color bars**
1, F	NarrowChrBPF (NTSC only)	Enables alternate (narrow) bandpass filter for the chroma channel	• **Disable** • Enable

Table 3-4. NTSC Parameter Banks 2 and 3

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
2, 0	Bank Select	Selects parameter bank	• Bank increase • Bank decrease • (**Bank 0**)
2, 1	VBI Filter Control	Controls activation of VBI process controls	• Enable • **Disable**
2, 2	VBI Filter Field	Selects field for VBI process controls	• Field 2 • **Field 1**
2, 3	VBI Filter Line 10	Selects processing mode for line 10	• **Notch** • Blank • Bypass
2, 4	VBI Filter Line 11	Selects processing mode for line 11	• **Notch** • Blank • Bypass
2, 5	VBI Filter Line 12	Selects processing mode for line 12	• **Notch** • Blank • Bypass
2, 6	VBI Filter Line 13	Selects processing mode for line 13	• **Notch** • Blank • Bypass
2, 7	VBI Filter Line 14	Selects processing mode for line 14	• **Notch** • Blank • Bypass
2, 8	VBI Filter Line 15	Selects processing mode for line 15	• **Notch** • Blank • Bypass
2, 9	VBI Filter Line 16	Selects processing mode for line 16	• **Notch** • Blank • Bypass

Table 3-4. NTSC Parameter Banks 2 and 3 *(Continued)*

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
2, A	VBI Filter Line 17	Selects processing mode for line 17	• **Notch** • Blank • Bypass
2, B	VBI Filter Line 18	Selects processing mode for line 18	• **Notch** • Blank • Bypass
2, C	VBI Filter Line 19	Selects processing mode for line 19	• **Notch** • Blank • Bypass
2, D	VBI Filter Line 20	Selects processing mode for line 20	• **Notch** • Blank • Bypass
2, E	VBI Filter Line 21	Selects processing mode for line 21	• **Notch** • Blank • Bypass
2, F	VBI Filter Line 22 (both fields)	Selects processing mode for line 22	• **Comb** • Notch • Blank • Bypass

Table 3-4. NTSC Parameter Banks 2 and 3 *(Continued)*

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
3, 0	Bank select	Selects parameter bank	• Bank increase • Bank decrease (**Bank 0**)
3, 1	VBI Setup Control	Controls activation of VBI setup controls	• Enable • **Disable**
3, 2	VBI Setup Field	Selects field for VBI setup controls	• Field 2 • **Field 1**
3, 3	VBI Setup Line 10	Selects presence of setup of line 10	• **Without** • With
3, 4	VBI Setup Line 11	Selects presence of setup of line 11	• **Without** • With
3, 5	VBI Setup Line 12	Selects presence of setup of line 12	• **Without** • With
3, 6	VBI Setup Line 13	Selects presence of setup of line 13	• **Without** • With
3, 7	VBI Setup Line 14	Selects presence of setup of line 14	• **Without** • With
3, 8	VBI Setup Line 15	Selects presence of setup of line 15	• **Without** • With
3, 9	VBI Setup Line 16	Selects presence of setup of line 16	• **Without** • With
3, A	VBI Setup Line 17	Selects presence of setup of line 17	• **Without** • With
3, B	VBI Setup Line 18	Selects presence of setup of line 18	• **Without** • With
3, C	VBI Setup Line 19	Selects presence of setup of line 19	• **Without** • With

Table 3-4. NTSC Parameter Banks 2 and 3 *(Continued)*

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
3, D	VBI Setup Line 20	Selects presence of setup of line 20	• **Without** • With
3, E	VBI Setup Line 21	Selects presence of setup of line 21	• **Without** • With
3, F	VBI Setup Line 22	Selects presence of setup of line 22	• **Without** • With

Table 3-5. PAL-B Parameter Banks 2 and 3

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
2, 0	Bank Select	Selects parameter bank	• Bank increase • Bank decrease (**Bank 0**)
2, 1	VBI Filter Control	Controls activation of VBI process control	• Enable • **Disable**
2, 2	VBI FilterField	Selects field for VBI process control	• Field 2 • **Field 1**
2, 3	Field 1: Line 6 Field 2: Line 319	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, 4	Field 1: Line 7 Field 2: Line 320	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, 5	Field 1: Line 8 Field 2: Line 321	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, 6	Field 1: Line 9 Field 2: Line 322	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, 7	Field 1: Line 10 Field 2: Line 323	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, 8	Field 1: Line 11 Field 2: Line 324	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, 9	Field 1: Line 12 Field 2: Line 325	Selects processing mode for these lines	• **Notch** • Blank • Bypass

Table 3-5. PAL-B Parameter Banks 2 and 3 *(Continued)*

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
2, A	Field 1: Line 13 Field 2: Line 326	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, B	Field 1: Line 14 Field 2: Line 327	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, C	Field 1: Line 15 Field 2: Line 328	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, D	Field 1: Line 16 Field 2: Line 329	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, E	Field 1: Line 17 Field 2: Line 330	Selects processing mode for these lines	• **Notch** • Blank • Bypass
2, F	Field 1: Line 18 Field 2: Line 331	Selects processing mode for these lines	• **Notch** • Blank • Bypass

Table 3-5. PAL-B Parameter Banks 2 and 3 *(Continued)*

Bank, Rotary Switch	Parameter Name	Function	Parameter Option
3, 0	Bank select	Selects parameter bank	• Bank increase • Bank decrease (**Bank 0**)
3, 1	VBI Filter Control	Controls activation of VBI process control	• Enable • **Disable**
3, 2	VBI FilterField	Selects field for VBI process control	• Field 2 • **Field 1**
3, 3	Field 1: Line 19 Field 2: Line 332	Selects processing mode for these lines	• **Notch** • Blank • Bypass
3, 4	Field 1: Line 20 Field 2: Line 333	Selects processing mode for these lines	• **Notch** • Blank • Bypass
3, 5	Field 1: Line 21 Field 2: Line 334	Selects processing mode for these lines	• **Notch** • Blank • Bypass
3, 6	Field 1: Line 22 Field 2: Line 335	Selects processing mode for these lines	• **Comb** • Notch • Blank • Bypass
3, 7	Field 1: Line 23 Field 2: Line 336	Selects processing mode for these lines	• **Comb** • Notch • Blank • Bypass
3, 8 to F	(Not functional)		

Data I/O Interface (DES6800✚ Only)

The DES6800✚ is designed to provide synchronization with 6800/7000 series audio modules using the external DATA I/O connector (see Figure 1-2 on page 6). More information on this future-use feature will be released as modules become available.

LEDs and Alarms

Monitoring LEDs

The DEC/DES6800✚ have five monitoring LEDs that serve as a quick monitoring reference. Figure 3-1 illustrates the location of the monitoring LEDs on the module. See Table 3-6 for more information about the monitoring LEDs.

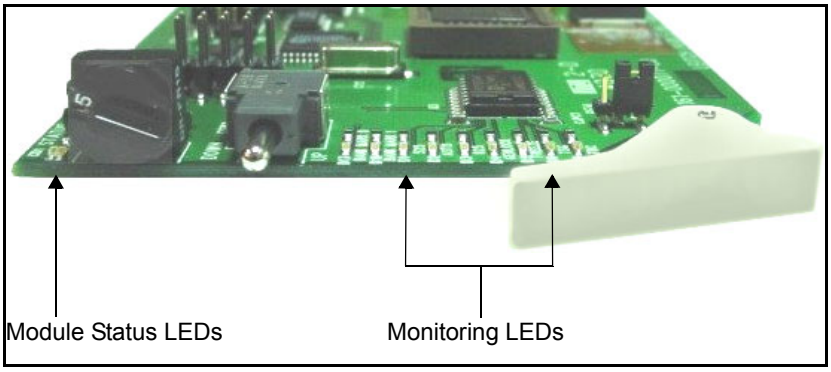

Figure 3-1. Location of DEC/DES6800✚ LEDs

The monitoring LEDs on the card-edge of DEC/DES6800✚ modules are identified in Figure 3-1 (left to right)

Table 3-6. Monitoring LEDs

LED Name	Function	Color Description
525	Signals if the input video standard is 525	• Green: Module is in 525 mode and valid 525 input is detected • Flashing: module is in 525 mode, but valid 525 input is not detected • Off: module is not in 525 mode
Auto	Signals if the module is in detect standard mode or force standard mode	• Green: detect standard mode • Off: force standard mode
625	Signals if the input video standard is 625	• Green: Module is in 625 mode and valid 625 input is detected • Flashing: module is in 625 mode, but valid 625 input is not detected • Off: module is not in 625 mode
Genlock (DES6800✚ only)	Signals the genlock state	• Yellow: signal is locked to genlock. • Flashing: module is set to sync mode, but it is not locked • Off: module is in free-run or delay mode
Freeze (DES6800✚ only)	Signals if the input video is frozen	• Green: module's output video is frozen • Off: module's output video is not frozen

Table 3-6. Monitoring LEDs *(Continued)*

LED Name	Function	Color Description
TSG	Signals if the test signal generator is operating	• Yellow: test signal generator is operating • Off: test signal generator is not operating
TBC (DES6800✚ only)	Signals if the time base corrector is operating	• Yellow: time base corrector is operating • Off: time base corrector is not operating

Module Status LEDs

The DEC/DES6800✚ modules have two card-edge alarms. They also have module status LEDs that flash or remain unlit if an error is detected. See Table 3-7 for more information about the module status LEDs.

Alarms are usually logged and monitored within the available 6800✚ software control applications (for example, +Pilot Lite or Pilot). See “Alarms” on page 37, and the appropriate software control user manual or online help for more information.

Note

If the LED is flashing red, please contact your customer service epresentative.

Table 3-7. Status LED Descriptions

LED Color Sequence	Meaning
Off	There is no power to the module; the module is not operational.
Green	There is power to the module; the module is operating properly.
Red	There is an alarm condition.
Flashing red	The module detected a hardware/firmware fault. (*See* Note.)
Amber	The module is undergoing configuration.

Alarms

Table 3-8 describes the specific alarms for the DEC/DES6800✚ modules. You can identify alarms most easily by using a software control application such as ✚ Pilot Lite or Pilot. The alarms can also be identified through the card edge LEDs on the module itself.

Table 3-8. Module Alarms

Alarm Name	Pilot Lite and CCS Alarm Description	Alarm Description	Alarm Level
Loss of Video	Video input not detected	See Table 3-6 on page 35 for LED names **525** and **625** for alarm description	Major
Loss of reference_locked	Module is set to Sync mode, but no reference is present	See Table 3-6 on page 35 for LED names **Genlock** for alarm description	Major

Chapter 4

Specifications

Overview

The tables in this chapter list selected specifications for the DEC/DES6800✚ modules.

The following specifications are found in this chapter:

- "Input" on page 40
- "Video Processing" on page 41
- "Output" on page 43
- "Power Consumption" on page 44
- "Module Start-Up Time" on page 44

Input

Analog Video Input

Table 4-1. DEC/DES6800✚ Analog Video Input

Item	Specification
Standards	NTSC, PAL-B
Level	1 V peak-to-peak ±2.5 dB
Impedance	75Ω
Return loss	>40 dB to 5.75 MHz
Common mode rejection	>60 dB at 50/60 Hz
Common mode range	5 V peak-to-peak
Video level adjust range	±5 dB

Reference Input (DES6800+)

Table 4-2. DES6800✚ Reference Input

Item	Specification
Level	1 V p-p
Signal type	Analog composite NTSC/PAL-B
Connector	BNC
Impedance	75Ω

Video Processing

Analog Video Processing

Table 4-3. DEC/DES6800✚ Analog Video Processing

Item	Specification
Gain range	±5 dB
Hue range	±180°

Digital Video Processing

Table 4-4. DEC/DES6800✚ Digital Video Processing

Item	Specification
Input	12-bit quantized video
Decoding algorithm	3-line adaptive comb
Frequency response	±0.1 dB to 5.75 MHz
Luma signal to noise ratio	>60 dB 10 kHz to 6 MHz
Minimum delay	DEC6800+: NTSC mode: 68µs PAL mode: 197µs DES6800+: NTSC mode: 398µs PAL mode: 401µs

Phasing (DES6800+)

Table 4-5. DES6800✚ Phasing

Item	Specification
Horizontal phase adjustment range	1 line, with resolution of 37 ns
Vertical phase adjustment range	1 frame, with resolution of 1 line

Storage (DES6800+)

Table 4-6. DES6800✚ Storage

Item	Specification
Number of fields	2 (1 frame)
Data path	10 bits

Output

Video Output

Table 4-7. DEC/DES6800✚ Video Output

Item	Specification
Quantity	4
Standard	259M-C; 270 Mb/s
Connector	BNC per IEC 169-8
Impedance	75Ω
Return loss	>18 dB to 270 MHz
Signal level	800 mV ±10%
DC level	0.0 V ±0.5 V
Rise and fall times	400 to 1000 ps (20% to 80% amplitude)
Overshoot	<10% of amplitude (all outputs terminated)
Jitter	<500 ps

Audio Synchronization Interface Output (DES6800+)

Table 4-8. DEC/DES6800✚ Audio Synchronization Interface Output

Item	Specification
Output ports	1
Connector	BNC per IEC 169-8
Impedance	75Ω

Power Consumption

Table 4-9. DEC/DES6800✚ Power Consumption

Item	Specification
DEC6800+	6.9 W (typical)
DES6800+	7.3 W (typical)

Module Start-Up Time

Table 4-10. DEC/DES6800✚ Module Start-Up Time

Module	Duration
DEC6800+	8 sec (approximate)
DES6800+	10 sec (approximate)

Operating Temperature

The operating temperature for DEC6800✚ and DES6800✚ modules is 41° to 113°F (5° to 45°C).

Appendix A

DEC6800+ and DES6800+ Troubleshooting

Overview

The following checklists will help you solve some of the most commonly seen issues.

It is split into the following two sections:

- “Genlock Issues (DES6800+ only)” on page 46
- “Output Issues” on page 48

For best results, use ✚ Pilot Lite software to check settings and parameters if housed inside an FR6802+ frame. ✚ Pilot Lite software is installed on a PC that connects to the 6800✚ frame via the serial port connector at the rear of the frame, and can be downloaded from www.broadcast.harris.com/leitch. Use a null modem RS-232 cable to connect between the PC and the 6800+ frame.

Genlock Issues (DES6800✚ only)

If the DES6800✚ cannot lock to genlock, proceed through the following checklist:

Note

The DEC6800✚ does not use or lock to genlock. The back module has genlock connectors because it shares the same back module as the DES6800✚. The DEC6800✚ cannot be upgraded to a DES6800✚.

1. Check that the **Reference Select** parameter is properly set. There are three choices:
   - **Genlock 1/Frame Genlock** - When this setting is chosen, the genlock source must come from either the Genlock 1 input of the back module or from the FR6802✚ frame genlock input. This is determined by the position of jumper J28 on the DES6800✚ module.

     Set to pins 1 and 2 for Genlock 1 input and pins 2 and 3 for Frame input, as shown below.

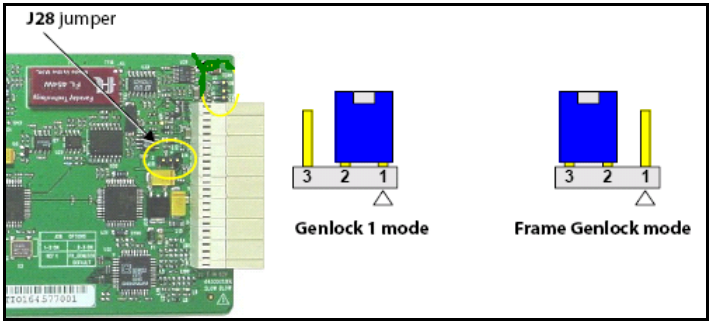

Figure A-1. Genlock Mode Jumper Locations and Settings

Note

The same type of genlock format (NTSC or PAL-B) should never be applied to both genlock input sources at the same time.

   - **Genlock 2** - If this setting is chosen the genlock source will be taken from the Genlock 2 input of the back module and is independent of the jumper J28 setting.
   - **Auto** - If this setting is chosen, the genlock source will vary between **Genlock 1/Frame** and **Genlock 2** genlock. Use this setting if the card is expected to auto-switch between an NTSC reference and a PAL-B reference based on the video input. In this case an NTSC reference would be applied one Genlock input and a PAL-B reference applied to the other. Then when the input signal changes between NTSC and PAL-B, the genlock will automatically switch to the appropriate genlock

source. Remember that the jumper determines whether Genlock 1 or the Frame is the source of the second genlock input (see Figure A-1 on page 46).

When the genlock input is valid the D4 Genlock LED on the card edge will turn yellow.

2. Check that the **Genlock** parameter is set to Sync mode. If this parameter is set to Delay mode or Free run, it will not synchronize the video to the genlock reference.
3. Check that the **Video Standard Sel.** parameter is set to the correct standard for the current video input. This parameter is normally left in Auto mode where it will automatically switch to 525 or 625 video standards as the input changes. However if this is forced into 525 or 625, then the genlock input must also match the chosen standard. For example, if 625 mode is selected but an NTSC reference is present on the genlock input, the unit will not genlock or synchronize.

Note

Bent pins may also cause communications issues with Pilot Lite, Pilot or Navigator.

4. If the first three items are correct on your DES6800✚ module, the next thing to check is the back module. Follow these steps:
   a. Unplug the front module.
   b. Unscrew and remove the back module.
   c. Check that the 20 pin spring connector at the bottom of the back module does not have any bent or pressed in pins. (See Figure A-2.) Even a slightly depressed or bent pin may cause genlock issues.

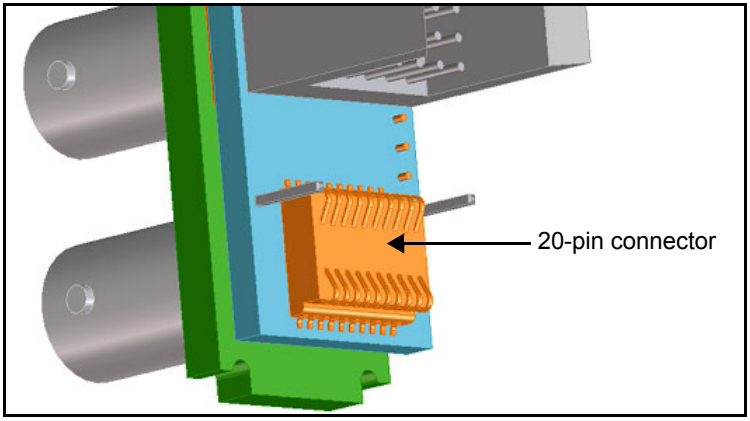

Figure A-2. Back Module to Front Module Connector

d. If there are bent pins carefully re-position them to their correct positions.

   If this is not possible then you can exchange the back module for a new back module. Use part number DES6800+DR.

5. If the DES6800+ can still not be genlocked, attempt doing a **Factory Recall** on the module.

Output Issues

If the SDI output has issues such as no output, unstable output or frozen output proceed with the following checklist.

1. Check that the **Video Standard Select** parameter is set correctly. This is normally left in Auto mode, but if 525 or 625 mode is selected and then the wrong input standard is applied, the unit will not pass good video.
2. If the video output appears to be soft or unstable, check the **Decode Mode** parameter. If Notch is selected this may cause softer video. The Notch filter is normally only needed with poorer quality video sources, so try setting this parameter to Auto or 2-D Adaptive mode. In Auto mode it will automatically switch between 2-D Adaptive or Notch depending on the quality of the input signal.
3. (DES6800+ only) - If the video output appears to be frozen check that the **Freeze Mode** parameter is not turned on. When this parameter is set to On, the DES6800+ will freeze the last video frame or field that was received.
4. (DES6800+ only) - If the video output appears to be stuck on black or color bars check that the **TSG** parameter (Test Signal Generator) is not enabled.
5. (DES6800+ only) - If the video output appears to be unstable it may mean that the source is non-time base corrected. Try turning the **TBC Mode** parameter to **Enable**.

6. If Closed Captioning on Line 21 does not appear to be picked up by CC decoders or is intermittent ensure that the **VBI Filter Line 21** parameters are set to Bypass. This bypasses the comb filter and since CC is a luma only signal it should not be comb filtered.
   - First go to the **VBI Filter Control** parameter and enable it.
   - Go to the **VBI Filter Field** parameter and select Field 1 first.
   - Go to the **VBI Filter Line 21** parameter and choose Bypass.
   - If there is Closed Caption 2 (CC 2) on Field 2 then go back to the **VBI Filter Field** parameter and choose Field 2 and repeat the next step.
7. If the output is still not valid, try doing a **Factory Recall**.
8. Check the Module Status LED on the card edge. If it is flashing red, there is a likely hardware or firmware fault. Contact customer service.

If after going through this checklist the DEC6800✚ or DES6800✚ module still does not operate as expected, contact customer service for further assistance. Send an email to service@leitch.com.

Appendix B

Communication and Control Troubleshooting Tips

Overview

Find the following troubleshooting information in this appendix:

- "General Troubleshooting Steps" on page 52
- "Software Communication and Control Issues" on page 53
- "Hardware Communication and Control Issues" on page 57
- "Contacting Customer Service" on page 57

General Troubleshooting Steps

Follow these steps in troubleshooting 6800✚ product problems:

1. Review the "Software Communication and Control Issues" on page 53 outlined in this chapter.
2. Search this product manual and other associated documentation for answers to your question.

   Product documentation (including manuals, online help, application notes, erratas, product release notes, and more) can be found on our Web site at www.broadcast.harris.com/leitch (Support section), along with technical support information, training information, product downloads, and our product knowledge base.
3. Contact your customer service representative if, after following these initial steps, you cannot resolve the issue.

   To contact customer service, see "Contacting Customer Service" on page 57.

Note

Associated documentation for 6800✚ series products can generally be found in the product-specific manual that accompanies every module, in the *FR6802✚ Frame Installation and Operation Manual*, and in the *6800✚ Safety Instructions and Standards Manual*.

Software Communication and Control Issues

- "+ Pilot Lite Fails to Communicate with Installed Modules" on page 53
- "+ Pilot Lite Does Not Find All Modules in Frame" on page 55
- "+ Pilot Lite or CCS Software Application Not Responding" on page 55
- "+ Pilot Lite Cannot Control a Module Showing in the Control Window" on page 55
- "+ Pilot Lite Status Bar Reports 'Not Ready'" on page 56
- "CCS Software Application or Remote Control Panel Does Not Communicate with Module" on page 56
- "Alarm Query Fails When a Device Reboots" on page 56

+ Pilot Lite Fails to Communicate with Installed Modules

Confirm that the following items are not the reason for the communication failure:

- The proper module slot has not been specified (✚ Pilot Lite is not communicating with the appropriate slot). See your *FR6802+ Frame Installation and Operation Manual* for more information on slot identification.
- The COM port is used elsewhere (Check that the correct COM port is configured in ✚ Pilot Lite and that another application is not using that COM port).
- The actual frame ID does not match the two DIP switch settings in the back of the frame (✚ Pilot Lite is not communicating with the proper frame). See your *FR6802+ Frame Installation and Operation Manual* for more information on frame ID switch settings.
- A null modem cable is not being used. Between the PC running ✚ Pilot Lite and the FR6802✚ frame, there should be a null RS-232 modem cable. At minimum, this requires that pins 2 and 3 are crossed and 5 to 5 for ground.
- An ICE6800✚ module is installed in the frame (✚ Pilot Lite control is disabled if an ICE6800✚ module is installed in the frame; ICE6800✚ modules are used for CCS control).

- A legacy 6800 series product is in the frame. To communicate with ✚ Pilot Lite, modules must be from the 6800✚ product family.

  ✚ Pilot Lite cannot communicate with legacy 6800 series products. Although they can be installed in a FR6802✚ frame and work using card edge controls, 6800 series cards cannot be discovered or controlled by ✚ Pilot Lite.

- The back module has bent pins. To determine if the module has bent pins, follow this procedure:

  a. Unplug the front module.

  b. Unscrew and remove the back module.

  c. View the 20-pin spring connector at the bottom of the back module. See Figure B-1.

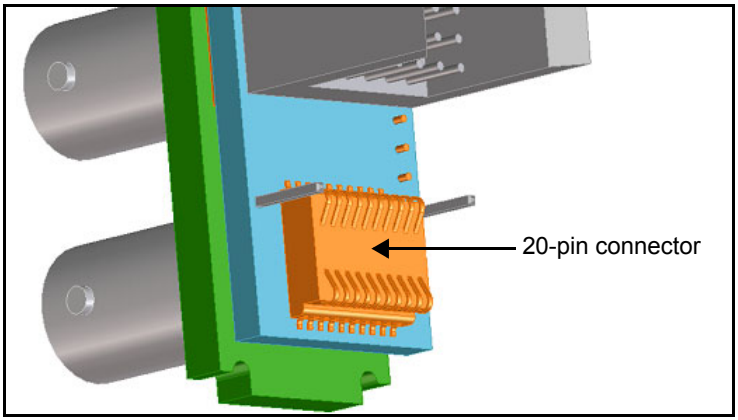

Figure B-1. Connector on 6800✚ Back Module

This connector should not have any bent or pressed pins. Even a slightly depressed or bent pin may cause genlock issues.

d. If there are bent pins, carefully re-position them to their correct positions.

If this is not possible, then a back module can be exchanged for a new one.

+ Pilot Lite Does Not Find All Modules in Frame

If a discovery is started too soon after frame power-up, + Pilot Lite will not find all the installed modules. Refresh + Pilot Lite (**File** > **Refresh**), and ensure that installed modules are fully powered-up before discovery.

If a module is plugged into the frame after a discovery, + Pilot Lite will not automatically detect the module. Refresh + Pilot Lite (**File** > **Refresh**) to discover the newly installed module.

If a legacy 6800 series product is in the frame, + Pilot Lite will not detect it. + Pilot Lite cannot communicate with legacy 6800 series products. Although they can be installed in the FR6802+ frame and work using card edge controls, they will not be discovered or controlled by + Pilot Lite. For + Pilot Lite to find a module, it must be from the 6800+ product family.

+ Pilot Lite or CCS Software Application Not Responding

+ Pilot Lite and a CCS application such as Navigator or Pilot cannot run on the same PC at the same time. Both applications can be installed, but only one can be opened at a time.

+ Pilot Lite Cannot Control a Module Showing in the Control Window

Consider these questions:

- Did you physically set the jumper for local control? If so, set this jumper to the REM position for remote control.
- Is the module properly seated in the frame? Check the positioning of the module in its slot in the frame.
- Does the Control window indicate the device is “ready”? The device may be powered off or disconnected from the network.

+ Pilot Lite Status Bar Reports 'Not Ready'

✚ Pilot Lite reports each device's connection status in the status bar. If the connection status message reads "Not Ready," check the following:

- Is the module properly seated in the frame? Check the position of the module in the frame.
- Is the frame connected to the network? Check the device's network connection.

If the status bar still reports no status or "Not Ready" for the frame or device, try restarting ✚ Pilot Lite.

CCS Software Application or Remote Control Panel Does Not Communicate with Module

CCS software applications (such as Pilot, CoPilot, and Navigator) and remote control panels require the purchase and installation of an ICE6800✚ module in an FR6802✚ frame in order to communicate remotely via Ethernet.

Alarm Query Fails When a Device Reboots

When you reboot a device connected to your PC, the alarm traffic hitting the network may cause an alarm query request to time out and fail. While the query does not automatically retry, it will post an "Alarm query failed" message to the **Diagnostics** window.

To clear an "Alarm query failed" message, right-click inside the **Diagnostics** window, and then select **Refresh** from the resulting context menu.

Hardware Communication and Control Issues

- "Frames Fail to Communicate with the PC after a Power Failure" on page 57
- "Module Does Not Seem to Work" on page 57

Frames Fail to Communicate with the PC after a Power Failure

Have you exited the software and restarted since the frame recovered from its power failure? To restore communications between the PC and the frames, ensure that the frames have three or more minutes to recover from the power failure before you exit the application and restart the PC.

Module Does Not Seem to Work

Although the following troubleshooting tips may seem obvious, please take the time to ensure the following:

- All appropriate rear connections are securely made
- The board is securely installed (with no bent pins)
- The frame is turned on

Contacting Customer Service

We are committed to providing round-the-clock, 24-hour service to our customers around the world. Visit our Web site at www.broadcast.harris.com/leitch (click on **Support** > **Technical Support**) for information on how to contact the customer service team in your geographical region.

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